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Response to comment on «Metabolic syndrome is associated with cardiovascular events in haemodialysis»

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To the Editor,
We would like to thank Dr. Esteve Simo[1] et al. for their interest in our work[2] and comments.

We think it is important that studies like theirs reinforce interest in metabolic syndrome in patients on haemodialysis (HD). Although methodologically different, since our main objective was to analyse the effect of metabolic syndrome and to determine the influence of fat mass and conicity index on cardiovascular events in HD and in which a larger number of patients were included, both studies show similar results.

Based on matching the results in both studies and the statistical power of our data, we agree in stating that due to the high prevalence of metabolic syndrome in HD patients, it is necessary to closely monitor these patients to prevent short-term morbidity and that further studies are needed with longer follow-up to analyse long-term mortality.

Conflicts of interest
The authors declare that they have no conflicts of interest related to the contents of this article.

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B) BRIEF PAPERS ON RESEARCH AND CLINICAL EXPERIMENTS

Occult kidney disease determined using glomerular filtration rate equations in Primary Care

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To the Editor,
In Spain, around 11% of the adult population suffers from some degree of chronic kidney disease[1], a figure that will progressively grow due to an ageing population and the increase in the prevalence of other chronic diseases such as diabetes mellitus, high blood pressure, dyslipidaemia and obesity.

We carried out this study with the objective of determining the percentage of patients with occult kidney disease using the Cockcroft-Gault (C-G) and/or the 4-variable MDRD (Modification of Diet in Renal Disease) equations as an indirect measurement of renal function, analysing the potential error made by exclusively assessing serum creatinine.

MATERIAL AND METHOD

We performed a cross-sectional descriptive study with adult patients older than 18 years of age, whose serum creatinine had been requested on at least two occasions in a one-year period in their health centre, excluding those whose tests showed high variability (greater than 0.5mg/dl of creatinine between the two tests).

RESULTS

A total of 183 patients were included with a mean age of 59.1±18.2 years,

with 64.5% being female (mean age: 58.7 years vs. 60.0 years in males).

With regard to pathologies, 51.4% had high blood pressure, 27.9% were diabetic, 40.4% had dyslipidaemia and 11.5% suffered from some type of heart disease. 6.6% of patients had hyperuricemia (13.8% males, 2.5% females, $p<.01$). 5.5% were diagnosed with chronic kidney disease.

5.5% had kidney disease according to serum creatinine values (9.2% of the males and 3.4% of the females, $p=.10$). Using the C-G equation, 29.1% had a glomerular filtration rate (GFR) <60ml/min/1.73m^2 (25.0% of the males, 31.4% of the females, $p=.37$) and 25.7% using the 4-variable MDRD equation (24.6% of the males, 26.3% of the females, $p=.81$). Table 1 compares the percentages of patients in accordance with their GFR using both equations.

21.4% of patients according to the 4-variable MDRD equation and 25.0% according to the C-G equation had occult kidney disease.

With regard to drugs that are potentially dangerous for patients with a low GFR, it has been demonstrated that 40.0%-44.4% (depending on the equation used) of patients with stage 3-4 chronic kidney disease were being treated with non-steroidal anti-inflammatory drugs, 15.6%-18.0% with metformin, 15.6%-16.0% with oral anti-diabetic drugs and 6.0%-6.7% with allopurinol.

If we analyse the level of concordance obtained between the two equations, C-G[2] and 4-variable MDRD[3], we observe a level of concordance classified as very good (index $\varkappa$ 0.81±0.05, $p<.001$, χ^2 test) (Table 2). In a more detailed manner, upon analysing the specific level of concordance of each stage of chronic kidney disease, similar results were obtained mainly in advanced stages. Thus, for stage 1, the level of concordance is weak ($\varkappa$ 0.39±0.09; $p<.001$; χ^2 test), for stage 2, it is moderate ($\varkappa$ 0.56±0.06; $p<.001$; χ^2 test) and for stage 3, it is very good ($\varkappa$ 0.84±0.05; $p<.001$; χ^2 test).

Table 1. Stratification of the glomerular filtration rate according to the values of the Cockcroft-Gault and MDRD-4 equations

	Cockcroft-Gault		
	Male	Female	Total
Normal GFR	4.7%	28.1%	19.7%
Slightly decreased GFR	70.3%	42.1%	52.2%
Moderately decreased GFR	25.0%	28.9%	27.5%
Severely decreased GFR	0%	0.9%	0.6%
	4-variable MDRD		
Normal GFR	4.6%	6.1%	5.6%
Slightly decreased GFR	70.8%	68.7%	69.4%
Moderately decreased GFR	24.6%	24.3%	24.4%
Severely decreased GFR	0%	0.9%	0.6%

GFR: glomerular filtration rate, MDRD: Modification of Diet in Renal Disease.

DISCUSSION

Approximately one in every four patients in our study had a GFR <60ml/min/1.73m^2 despite having creatinine values within the appropriate range. In similar studies, the percentage of patients with occult kidney disease varies between 10.4% and 43.5%, according to the study population[4-6]. We observed a more prevalent decrease in GFR in females, similarly to the aforementioned studies, although in our study, the differences observed were not statistically significant.

Most patients assessed had a slightly decreased GFR. The patients who had more marked GFR involvement were elderly patients with more cardiovascular risk factors, similarly to studies of similar characteristics carried out in Primary Care[7].

In our study, high blood pressure, hyperuricemia and heart disease were the pathologies most associated with moderate-severe GFR involvement. Controlling these pathologies, as well as diabetes mellitus, must be one of our priorities, not only in order to slow down progression, but also to reduce cardiovascular risk, which is significantly associated with chronic kidney disease[8-10].

Table 2. Concordance between the two equations used to determine the glomerular filtration rate

		4-variable MDRD		
		GFR ≥60 (ml/min/1.73m²)	**GFR <60 (ml/min/1.73m²)**	
Cockcroft-Gault	**GFR ≥60 (ml/min/1.73m²)**	125 (68.7%)	4 (2.2%)	129 (70.9%)
	GFR <60 (ml/min/1.73m²)	10 (5.5%)	43 (23.6%)	53 (29.1%)
		135 (74.2%)	47 (25.8%)	182 (total)

GFR: glomerular filtration rate, MDRD: Modification of Diet in Renal Disease.
Index $\varkappa$ 0.81±0.05, p<.001, χ^2 test.

The concordance found between the two equations (C-G and 4-variable MDRD) improves as the degree of GFR involvement increases, being very good in patients in stage 3.

In conclusion, the data show the ever increasing incidence of individuals with kidney disease in Primary Care clinics, probably due to an ageing population, concomitant diseases and the increase in medication use in general, and mainly medications that can affect renal function. We also noted the high percentage of individuals who had a decreased GFR despite maintaining normal plasma creatinine and who usually are undetected since their GFR is not estimated using a more reliable method.

Conflicts of interest

The authors declare that they have no conflicts of interest related to the contents of this article.

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Necrotizing crescentic glomerulonephritis in a patient with positive serologies for lupus and antineutrophil cytoplasmic antibodies

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Dear Editor,

Patients with acute renal failure due to pauci-immune necrotizing and crescentic glomerulonephritis with antinuclear antibody (ANCA) seropositivity can present with positive lupus serologies.[1] On the other hand, patients with lupus nephritis present with ANCA seroconversion in 20% of cases. The fact that systemic lupus erythematosus (SLE) and positive myeloperoxidase (MPO) ANCA titers with kidney involvement can present with scant subendothelial deposits in the kidney biopsy, may suggest a forme fruste of lupus nephritis or a concomitant renal vasculitis with neutrophil priming.

A 77-year-old man with chronic kidney disease due to hypertension, presented with hematuria, nausea, and vomiting and red discoloration of urine. Laboratory data Table 1, serology tests Table 2. Renal ultrasonography unremarkable. Patient developed hemoptysis. Chest radiograph revealed bilateral diffuse airspace opacities. Intravenous methylprednisolone was administered. The patient received hemodialysis. Renal biopsy showed mesangial hypercellularity (Figure 1), crescents (Figure 2), segmental necrosis (Figure 1). There was moderate tubular atrophy an occasional eosinophil. Immunofluorescence microscopy demonstrated granular IgG (1+), C3 (2+), and C1q (1+) deposition in the mesangial areas and glomerular basement membranes (Figure 3). EM showed numerous electron-dense deposits in the mesangial areas and few subepithelial and subendothelial electron-dense deposits (Figure 4). Focal effacement of podocyte foot processes was